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10/740,261	12/18/2003	Osman Polat	9475	1913

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EXAMINER

PIZZALI, ANDREW T

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

03/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/740,261

Applicant(s)

POLAT ET AL.

Examiner

Andrew T. Piziali

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-15 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29/04 & 12/18/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/17/2007 has been entered.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 5, 6 and 18-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 5,538,595 to Trokhan et al. (hereinafter referred to as Trokhan).

Trokhan discloses a fibrous structure comprising at least two layers wherein at least one of the layers of the structure includes long (greater than about 2 mm) cellulosic fibers and at least one of the layers includes short (less than about 2 mm) cellulosic fibers (see entire document including column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers (column 6, lines 48-52). Trokhan appears to disclose that the mixture layer, of short cellulosic fibers and synthetic fibers, may be disposed in a non-random pattern because Trokhan discloses that the fibrous structure is caused to conform to the surface of an open mesh drying/imprinting fabric (column 12, lines 31-65) and/or because the fibrous structure may be pattern densified (column 15, line 60 through column 16, line 40). In addition, the Figures illustrate a non-random pattern (rectangle).

Regarding claim 5, Trokhan discloses that the short cellulosic fibers are hardwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 6, Trokhan discloses that the long cellulosic fibers are softwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 18, Trokhan discloses that the fibrous structure may be creped, uncreped or embossed (column 6, lines 32-37 and column 9, lines 48-58).

Regarding claim 19, Trokhan discloses that the fibrous structure may be combined with a separate structure to form a multi-ply article (column 6, lines 32-37 and column 13, line 60 through column 14, line 33).

Regarding claim 20, Trokhan discloses that a latex may be disposed on at least a portion of the unitary structure (column 10, lines 5-21).

Claim Rejections - 35 USC § 103

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan as applied to claims 1, 5, 6 and 18-20 above, and further in view of USPN 6,548,731 to Mizutani et al. (hereinafter referred to as Mizutani).

Regarding claims 2 and 3, Trokhan is silent with regards to a specific fiber length ratio between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional ratios. Mizutani provides this conventional teaching showing that it is known in the absorbent product art to use cellulosic fibers that are shorter than the synthetic fibers resulting in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel (see entire document including column 1, lines 9-15). Mizutani mentions a synthetic fiber to short fiber ratio of between about 1 and about 13 (column 4, lines 50-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture with a synthetic fiber to short fiber ratio of 1 to 13, because the absorbent article would pass a large amount of liquid thus keeping the surface dry while not having a wet feel, and motivated by the expectation of successfully practicing the invention of Trokhan.

5. Claims 4, 8-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan as applied to claims 1, 5, 6 and 18-20 above, and further in view of WO 93/14267 to Manning.

Regarding claim 4, Trokhan is silent with regards to a PTP factor (diameter ratio) between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional PTP factors. Manning provides this

conventional teaching showing that it is known in the cellulosic and synthetic fiber mixture art to use synthetic and cellulosic fibers with a PTP factor of greater than about 0.75. Manning mentions synthetic fibers with a diameter of about 0.5 to 15 denier and cellulosic fibers with a diameter of 1 to 30 denier (see entire document including page 7, lines 8-24 and page 8, lines 1-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a PTP factor of greater than about 0.75, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 8, Trokhan discloses that the short cellulosic fibers may have a length weighted average fiber length of less than about 1 mm (column 13, lines 25-42), but Trokhan does not mention an average cellulosic fiber width. Trokhan is silent with regards to an average cellulosic fiber width, therefore, it would have been necessary and thus obvious to look to the prior art for conventional cellulosic fiber widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than about 18 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the short cellulosic fibers with an average fiber width of less than about 18 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 9, Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Manning provides this conventional teaching showing that it is known in the absorbent product art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15

micrometers (page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 10, Trokhan discloses that the long cellulosic fibers may have a length weighted average fiber length of greater than about 2 mm (column 13, lines 25-42), but Trokhan does not mention the average cellulosic fiber width. Trokhan is silent with regards to specific cellulosic fiber widths, therefore, it would have been necessary and thus obvious to look to the prior art for conventional widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than 50 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the long cellulosic fibers with an average fiber width of less than 50 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claims 11 and 12, Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers, but Trokhan does not specifically mention bicomponent synthetic fibers. Manning discloses that it is known in the art to use bicomponent synthetic fibers to improve adhesion between fibers (see page 6, lines 11-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the synthetic fibers in any suitable known fiber configuration, such a bicomponent fiber configuration, as taught by Manning, because bicomponent fibers improve adhesion between the fibers and

because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

Regarding claim 12, Manning discloses that the bicomponent fibers may be polyester and/or polyolefin based (see page 7, lines 6-15).

Regarding claim 15, Manning discloses that the bicomponent fibers are heat fused to adhere the fibers (see page 8, line 17 to page 9, line 9).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan as applied to claims 1, 5, 6 and 18-20 above, and further in view of USPN 4,202,959 to Henbest et al. (hereinafter referred to as Henbest).

Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Henbest provides this conventional teaching showing that it is known in the art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm with an average fiber width of not more than 25 mm (see entire document including column 2, lines 13-38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, as taught by Henbest, motivated by the expectation of successfully practicing the invention of Trokhan.

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan as applied to claims 1, 5, 6 and 18-20 above, and further in view of anyone of USPN 5,405,499 to Vinson or USPN 5,409,572 to Kershaw et al. (hereinafter referred to as Kershaw).

Trokhan is silent with regards to specific coarseness values, therefore, it would have been necessary and thus obvious to look to the prior art for conventional coarseness values. Vinson and Kershaw each provide this conventional teaching showing that it is known in the art to use a low coarseness, such as less than about 25mg/100m, because the softness of the product relates to the coarseness and a softer product is desired (see entire documents including column 1, lines 24-60 of Vinson and column 3, line 65 through column 4, line 31 of Kershaw). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture of short cellulosic fibers and synthetic fibers with a coarseness value of less than about 25mg/100m motivated by the expectation of successfully practicing the invention of Trokhan.

8. Claims 1, 5, 6 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger et al. (hereinafter referred to as Georger) or USPN 6,617,490 to Chen et al. (hereinafter referred to as Chen).

Trokhan discloses a fibrous structure comprising at least two layers wherein at least one of the layers of the structure includes long (greater than about 2 mm) cellulosic fibers and at least one of the layers includes short (less than about 2 mm) cellulosic fibers (see entire document including column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers (column 6, lines 48-52), but Trokhan does not mention the arrangement of the synthetic fibers in relation to the cellulosic fibers. Trokhan is silent with regards to specific arrangement, therefore, it would have been obvious to look to the prior art for conventional arrangement of cellulosic and synthetic fibers. Georger and Chen each provide this conventional teaching showing that it is known in the art to dispose a layer comprising cellulosic fibers and synthetic fibers in a non-random pattern, to provide capillary pressure gradients for fluid transportation, to increase tensile strength, and/or to improve abrasion resistance (see entire documents including the paragraph bridging columns 1 and 2 of Georger and column 8, lines 23-36 of Chen).

Georger discloses a nonwoven structure composed of synthetic fibers and cellulosic fibers (column 4, lines 29-50), wherein the structure comprises a first exterior surface, a second exterior surface, and an interior portion (paragraph bridging columns 3 and 4). Georger teaches the use of regions with different basis weight in a non-random pattern wherein the synthetic fibers are present in a greater amount (at least 60%) in each of the exterior surfaces and present in a lesser amount (less than about 40%) in the interior portion (paragraph bridging columns 3

and 4 and column 4, lines 29-50). Georger clearly discloses that the layer is disposed in a non-random pattern.

Chen discloses that a particularly useful composite material is a single layer comprising a mixture of pulp fibers and polymer, “such as the materials disclosed in...U.S. Pat No. 5,350,624 to Georger” (paragraph bridging columns 23 and 24). As explained in the above paragraph, Georger clearly discloses that the layer is disposed in a non-random pattern. Therefore, due at least to the teachings of Georger, Chen discloses that the layer is disposed in a non-random pattern.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to dispose the layer in a non-random pattern, as taught by Georger or Chen, to provide capillary pressure gradients for fluid transportation, to increase tensile strength, and/or to improve abrasion resistance and motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 5, Trokhan discloses that the short cellulosic fibers are hardwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 6, Trokhan discloses that the long cellulosic fibers are softwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 18, Trokhan discloses that the fibrous structure may be creped, uncreped or embossed (column 6, lines 32-37 and column 9, lines 48-58).

Regarding claim 19, Trokhan discloses that the fibrous structure may be combined with a separate structure to form a multi-ply article (column 6, lines 32-37 and column 13, line 60 through column 14, line 33).

Regarding claim 20, Trokhan discloses that a latex may be disposed on at least a portion of the unitary structure (column 10, lines 5-21).

9. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5, 6 and 18-20 above, and further in view of USPN 6,548,731 to Mizutani.

Regarding claims 2 and 3, Trokhan is silent with regards to a specific fiber length ratio between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional ratios. Mizutani provides this conventional teaching showing that it is known in the absorbent product art to use cellulosic fibers that are shorter than the synthetic fibers resulting in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel (see entire document including column 1, lines 9-15). Mizutani mentions a synthetic fiber to short fiber ratio of between about 1 and about 13 (column 4, lines 50-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture with a synthetic fiber to short fiber ratio of 1 to 13, because the absorbent article would pass a large amount of liquid thus keeping the surface dry while not having a wet feel, and motivated by the expectation of successfully practicing the invention of Trokhan.

10. Claims 4, 8-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5, 6 and 18-20 above, and further in view of WO 93/14267 to Manning.

Regarding claim 4, Trokhan is silent with regards to a PTP factor (diameter ratio) between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional PTP factors. Manning provides this conventional teaching showing that it is known in the cellulosic and synthetic fiber mixture art to use synthetic and cellulosic fibers with a PTP factor of greater than about 0.75. Manning mentions synthetic fibers with a diameter of about 0.5 to 15 denier and cellulosic fibers with a diameter of 1 to 30 denier (see entire document including page 7, lines 8-24 and page 8, lines 1-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a PTP factor of greater than about 0.75, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 8, Trokhan discloses that the short cellulosic fibers may have a length weighted average fiber length of less than about 1 mm (column 13, lines 25-42), but Trokhan does not mention an average cellulosic fiber width. Trokhan is silent with regards to an average cellulosic fiber width, therefore, it would have been necessary and thus obvious to look to the prior art for conventional cellulosic fiber widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than about 18 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to

make the short cellulosic fibers with an average fiber width of less than about 18 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 9, Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Manning provides this conventional teaching showing that it is known in the absorbent product art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers (page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 10, Trokhan discloses that the long cellulosic fibers may have a length weighted average fiber length of greater than about 2 mm (column 13, lines 25-42), but Trokhan does not mention the average cellulosic fiber width. Trokhan is silent with regards to specific cellulosic fiber widths, therefore, it would have been necessary and thus obvious to look to the prior art for conventional widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than 50 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the long cellulosic fibers with an average fiber width of less than 50 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claims 11 and 12, Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers, but Trokhan does not specifically mention bicomponent synthetic fibers. Manning discloses that it is known in the art to use bicomponent synthetic fibers to improve adhesion between fibers (see page 6, lines 11-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the synthetic fibers in any suitable known fiber configuration, such a bicomponent fiber configuration, as taught by Manning, because bicomponent fibers improve adhesion between the fibers and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

Regarding claim 12, Manning discloses that the bicomponent fibers may be polyester and/or polyolefin based (see page 7, lines 6-15).

Regarding claim 15, Manning discloses that the bicomponent fibers are heat fused to adhere the fibers (see page 8, line 17 to page 9, line 9).

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5, 6 and 18-20 above, and further in view of USPN 4,202,959 to Henbest.

Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Henbest provides this conventional teaching showing that it is known in the art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm with an average fiber width of not more than 25 mm (see entire document including column 2, lines 13-38). Therefore, it would have been obvious to one having ordinary skill in

the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, as taught by Henbest, motivated by the expectation of successfully practicing the invention of Trokhan.

12. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5, 6 and 18-20 above, and further in view of anyone of USPN 5,405,499 to Vinson or USPN 5,409,572 to Kershaw.

Trokhan is silent with regards to specific coarseness values, therefore, it would have been necessary and thus obvious to look to the prior art for conventional coarseness values. Vinson and Kershaw each provide this conventional teaching showing that it is known in the art to use a low coarseness, such as less than about 25mg/100m, because the softness of the product relates to the coarseness and a softer product is desired (see entire documents including column 1, lines 24-60 of Vinson and column 3, line 65 through column 4, line 31 of Kershaw). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture of short cellulosic fibers and synthetic fibers with a coarseness value of less than about 25mg/100m motivated by the expectation of successfully practicing the invention of Trokhan.

13. Claims 1-3, 5, 6 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani.

Trokhan discloses a fibrous structure comprising at least two layers wherein at least one of the layers of the structure includes long (greater than about 2 mm) cellulosic fibers and at least one of the layers includes short (less than about 2 mm) cellulosic fibers (see entire document including column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers (column 6, lines 48-52), but Trokhan does not mention the arrangement of the synthetic fibers in relation to the cellulosic fibers. Trokhan is silent with regards to specific arrangement, therefore, it would have been obvious to look to the prior art for conventional arrangement of cellulosic and synthetic fibers. Mizutani provides this conventional teaching showing that it is known in the art to arrange cellulosic fibers and synthetic fibers with regions of different basis weight in a non-random pattern to result in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel (see entire document including column 1, lines 9-15, column 6, lines 47-59, and Figure 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the layer with regions of different basis weight in a non-random pattern, as taught by Mizutani, to result in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel and motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claims 2 and 3, Trokhan is silent with regards to a specific fiber length ratio between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional ratios. Mizutani provides this conventional teaching showing that it is known in the absorbent product art to use cellulosic fibers that are shorter than the synthetic fibers resulting in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel (see entire document including column 1, lines 9-15). Mizutani mentions a synthetic fiber to short fiber ratio of between about 1 and about 13 (column 4, lines 50-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture with a synthetic fiber to short fiber ratio of 1 to 13, because the absorbent article would pass a large amount of liquid thus keeping the surface dry while not having a wet feel, and motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 5, Trokhan discloses that the short cellulosic fibers are hardwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

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Regarding claim 18, Trokhan discloses that the fibrous structure may be creped, uncreped or embossed (column 6, lines 32-37 and column 9, lines 48-58).

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Regarding claim 20, Trokhan discloses that a latex may be disposed on at least a portion of the unitary structure (column 10, lines 5-21).

14. Claims 4, 8-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani as applied to claims 1-3, 5, 6 and 18-20 above, and further in view of WO 93/14267 to Manning.

Regarding claim 4, Trokhan is silent with regards to a PTP factor (diameter ratio) between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional PTP factors. Manning provides this conventional teaching showing that it is known in the cellulosic and synthetic fiber mixture art to use synthetic and cellulosic fibers with a PTP factor of greater than about 0.75. Manning mentions synthetic fibers with a diameter of about 0.5 to 15 denier and cellulosic fibers with a diameter of 1 to 30 denier (see entire document including page 7, lines 8-24 and page 8, lines 1-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a PTP factor of greater than 0.75, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 8, Trokhan discloses that the short cellulosic fibers may have a length weighted average fiber length of less than about 1 mm (column 13, lines 25-42), but Trokhan does not mention an average cellulosic fiber width. Trokhan is silent with regards to an average cellulosic fiber width, therefore, it would have been necessary and thus obvious to look to the prior art for conventional cellulosic fiber widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than about 18 micrometers (see entire document including page 7, lines 8-24). Therefore, it would

have been obvious to one having ordinary skill in the art at the time the invention was made to make the short cellulosic fibers with an average fiber width of less than about 18 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 9, Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Manning provides this conventional teaching showing that it is known in the absorbent product art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers (page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 10, Trokhan discloses that the long cellulosic fibers may have a length weighted average fiber length of greater than about 2 mm (column 13, lines 25-42), but Trokhan does not mention the average cellulosic fiber width. Trokhan is silent with regards to specific cellulosic fiber widths, therefore, it would have been necessary and thus obvious to look to the prior art for conventional widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than 50 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the long cellulosic fibers with an average fiber width of less than 50 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claims 11 and 12, Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers, but Trokhan does not specifically mention bicomponent synthetic fibers. Manning discloses that it is known in the art to use bicomponent synthetic fibers to improve adhesion between fibers (see page 6, lines 11-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the synthetic fibers in any suitable known fiber configuration, such a bicomponent fiber configuration, as taught by Manning, because bicomponent fibers improve adhesion between the fibers and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

Regarding claim 12, Manning discloses that the bicomponent fibers may be polyester and/or polyolefin based (see page 7, lines 6-15).

Regarding claim 15, Manning discloses that the bicomponent fibers are heat fused to adhere the fibers (see page 8, line 17 to page 9, line 9).

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani as applied to claims 1-3, 5, 6 and 18-20 above, and further in view of USPN 4,202,959 to Henbest.

Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Henbest provides this conventional teaching showing that it is known in the art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm with an average fiber width of not more than 25 mm (see entire document including column 2, lines 13-38). Therefore, it would have been obvious to one having ordinary skill in

the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, as taught by Henbest, motivated by the expectation of successfully practicing the invention of Trokhan.

16. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani as applied to claims 1-3, 5, 6 and 18-20 above, and further in view of anyone of USPN 5,405,499 to Vinson or USPN 5,409,572 to Kershaw.

Trokhan is silent with regards to specific coarseness values, therefore, it would have been necessary and thus obvious to look to the prior art for conventional coarseness values. Vinson and Kershaw each provide this conventional teaching showing that it is known in the art to use a low coarseness, such as less than about 25mg/100m, because the softness of the product relates to the coarseness and a softer product is desired (see entire documents including column 1, lines 24-60 of Vinson and column 3, line 65 through column 4, line 31 of Kershaw). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture of short cellulosic fibers and synthetic fibers with a coarseness value of less than about 25mg/100m motivated by the expectation of successfully practicing the invention of Trokhan.

Response to Arguments

17. Applicant's arguments filed 12/17/2007 have been fully considered but they are not persuasive.

The applicant asserts that the applied prior art does teach or suggest the claimed fibrous structure because Georger, Chen, and Mizutani each fail to teach or suggest that the layer of short cellulosic fibers and synthetic fibers, as a whole, is arranged on a non-random pattern. The examiner respectfully disagrees. Firstly, Trokhan alone discloses that the mixture of short cellulosic fibers and synthetic fibers, as a whole, may be arranged in a non-random pattern because Trokhan discloses that the fibrous structure is caused to conform to the surface of an open mesh drying/imprinting fabric (column 12, lines 31-65) and/or because the fibrous structure may be pattern densified (column 15, line 60 through column 16, line 40). In addition, the Figures illustrate a non-random pattern (rectangle). Secondly, the current claims merely require that the layer be disposed (arranged) in a non-random pattern. Therefore, the mixture of short cellulosic fibers and synthetic fibers, as a whole, may be arranged in a non-random pattern and/or a non-random pattern may exist within the mixture.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/
Primary Examiner, Art Unit 1794